Colorado's Multi-Use Network: Ending The Digital-Divide

An ever widening "telecommunications gap" is leaving rural communities in Colorado further and further behind, greatly impairing their ability to compete economically. Colorado requires a fully developed, scalable and coordinated statewide telecommunications infrastructure to provide the citizens and businesses of Colorado access to government services, educational opportunities and information resources they need to keep the State's economy competitive.

Currently, Colorado has established itself as a leader within the high-tech arena. Yet there is a growing disparity between rural and urban communities, impairing their ability to compete economically. This lack of equality is better known as the Digital-Divide.

THE SOLUTION: THE MULTI-USE NETWORK (MNT)

Colorado's MNT is a public/private partnership to build a high-speed fiber-optic network for the State of Colorado. Qwest is the partner selected to build the MNT with the State serving as anchor tenant. The State will aggregate Colorado State government agency telecommunication requirements from its current multiple networks into a single network to reduce administrative and maintenance costs to the State. As anchor tenant, the State's investment will help leverage the development of telecommunications infrastructure and expand delivery of advanced services to all geographic regions of the state. The MNT will be implemented in three phases beginning in June 2000 and completing in 2003.

In short, MNT will bridge the Digital-Divide, eliminate backhaul charges throughout Colorado, increase economic development, create a backbone for e-government, aggregate traffic to reduce cost as well as change the model for telecommunications pricing for all users, public and private.

THE NEW TELECOMMUNICATIONS MODEL

The MNT project aggregates the existing and future demand of state agencies for telecommunication services, then leverages the considerable purchasing power of the State and its community partners to encourage private sector investment in the build-out of an expanded statewide telecommunications infrastructure. This reduces the vendors' risk of building costly facilities in anticipation of demand and the State's avoidance of investing in a costly private network. Telecommunications service providers have made some effort by improving facilities such as the installation of fiber optic cable. Unfortunately, much of this fiber is "dark" and unused awaiting a sufficient business case to "light" and make available its capacity and capability.

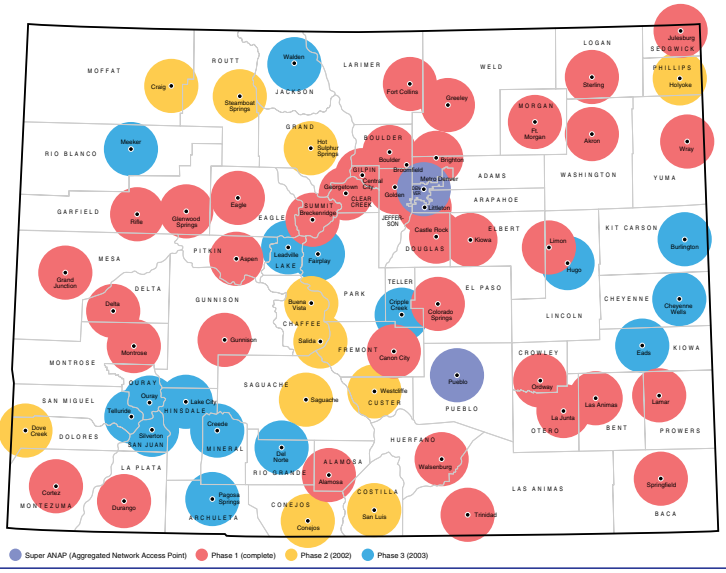
MNT has been developed to create a statewide telecommunications network though private/public partnership based on demand aggregation and the State's commitment to being an anchor tenant. Having the State as the anchor tenant for the MNT project provides incentive for private industry to build a statewide network for high-speed data communications throughout Colorado. The primary benefit of this new telecommunications model, is to unify and concentrate efforts to ensure that maximum value is achieved for all of Colorado, in the shortest time period possible.

Qwest and various subcontractors are the private partners for the project and are building the high-speed network. The MNT infrastructure is owned, managed and monitored by Qwest. The State of Colorado is the anchor tenant partner and as such, uses the significant aggregated telecommunications requirements of state government agencies as the leverage investment for extension of telecommunication capabilities and advanced services into all geographic areas of the state.

HOW DOES MNT WORK?

The project is being conducted in three phases in which 70 Aggregated Network Access Points (ANAPS) will be implemented across the state. An ANAP is a physical network point of presence on the Multi-Use Network backbone, with at least one in each of Colorado's counties. Network traffic in the form of frame relay or Asynchronous Transfer Mode (ATM) circuits from state agencies, local government, schools, libraries and non-profit health providers are aggregated at the ANAP in each county and routed onto the Multi-Use Network. Private sector business traffic is also aggregated at the ANAP and routed onto the private sector side of the Multi-Use Network called the Colorado High Speed Digital Network.

Colorado's Multi-Use Network



This service will be delivered over the new fiber optic network utilizing ATM technology. Forty-three ANAPS have been implemented in Phase I; an additional eleven ANAPS will be implemented in Phase II, year 2002; and the final sixteen ANAPS will be implemented in Phase III, year 2003.

WHY MNT?

One of the MNT project's primary objectives is to bridge the Digital-Divide that is occurring in Colorado. Colorado desires a strong economy with solid growth; the statewide telecommunications infrastructure that is MNT, is a critical component in making this happen. Equitable and affordable access to such technology throughout the state will ensure our ability to meet this need and better position Colorado for future growth.

In addition to closing the "communications gap" that exists in Colorado, MNT allows for the elimination of backhaul changes which is a key benefit of this new telecommunications model. Backhaul is the practice of bringing demand to a service rather than bringing service to the location where it is required. This term is used to describe the charges resulting from a circuit required to connect a location without requested service to a site where the service is offered. Backhauling adds considerable expense to network connections because it commonly uses circuits that are priced by distance. Without MNT, rural areas in Colorado would have to pay thousands of dollars for Internet access that many of us take for granted.

Furthermore, with MNT in place, all areas throughout Colorado can look forward to strong economic development in the future. The MNT promotes rural economic development by extending telecommunications infrastructure to all corners of the state by encouraging private investment with the state acting as the anchor tenant. This "upgrade" of the State's telecommunication infrastructure, through the aggregation of existing and impending demand, will provide many benefits to state agencies, schools, libraries and institutions of higher education. Access to increased capacity, expanded local services and purchasing power will bring economic development opportunities to traditionally underserved areas.

This plan is the solution to the State's information infrastructure needs, access to advanced services for the citizens of Colorado as well as a favorable business case for private sector investment. As telecommunications facilities improve throughout the state, and improved environment for economic development will result.

MNT is the backbone for e-government and with it the telecommunication infrastructure will aggregate traffic and reduce cost. State agencies, schools, libraries and institutions of higher education will no longer need to purchase telecommunication services in a piecemeal fashion. An aggregated network approach streamlines government by avoiding additional expenditures for duplicative state networks and provides the base infrastructure for electronic transactions. Citizens, businesses and government entities will all benefit from the upgraded facilities necessary to meet the objectives of this plan. Rural areas of the state that are currently "at or near" capacity will benefit from additional bandwidth and the advanced services made available by the local telecommunications provider. Equitable and affordable access to such technology throughout the state will ensure our ability to meet his demand and better position the State for future growth.

MNT will be capable of delivering time sensitive services like voice, video and IP data services to all counties of Colorado. Network bandwidth can expand to meet the customer requirements – more reliability and flexibility.

MNT also accommodates emerging video technology such as video over IP and MPEG-2. Other advantages include fiscal accountability, aggregation of video conferencing, IP telephony, higher bandwidth, distance learning capabilities, computer-based training, increased technology literacy, Interactive video conferencing, distance learning, telemedicine, interactive video, and the unlimited resource of the World Wide Web throughout all areas of Colorado.

THE FUTURE

Technology is changing the face of business at a revolutionary pace. States that are nurturing and growing the technology-based businesses are revolutionizing the economy, and will continue to lead the nation and the world for years to come. Colorado is dedicated to securing its future as a global technology leader with technology being a key driving force for change, advancement and success. This is the goal we have set forth in Colorado.